

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Susan CHUBINSKAYA et al.

Serial No.: To be assigned

Filed: Concurrently herewith

For: *Methods and Compositions Related  
to Modulators of Annexin and  
Cartilage Homeostasis*

**Mail Stop PATENT APPLICATION**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

**INFORMATION DISCLOSURE STATEMENT**

Applicants request that the references identified on Form PTO-1449 appended hereto be considered by the Examiner and officially made of record in accordance with the provisions of 37 CFR 1.97

- ☐ Copies of the references are enclosed  
☒ Copies of the references were submitted in parent application Serial No. 09/745,989 (37 CFR 1.98(d))  
☐ A copy of the International Search Report which issued on International Application No. \_\_\_\_\_ is submitted herewith. All of the publications cited in the International Search Report are listed on the attached form PTO-1449 and Applicants understand that copies have been supplied to the U.S. Patent Office by the International Bureau.
- A. ☒ The Information Disclosure Statement submitted herewith is being filed within three months of the filing date of the above application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last. 37 CFR 1.97(b).
- OR
- ☐ **The Information Disclosure Statement submitted herewith is being filed before the mailing of a first office action after the filing of a Request For Continued Examination under 37 C.F.R. 1.114 (37 C.F.R. 1.97(b)(4)).**
- B. ☐ The Information Disclosure Statement transmitted herewith is being filed **after** three months of the filing date of the above application or the date of entry into the national stage as set forth in § 1.491 of an international application or after the mailing date of the first Office Action on the merits, whichever event occurred last, but **before** the mailing date of either:
- (1) a final action under § 1.113 or
- (2) a notice of allowance under § 1.311,
- whichever occurs first.
- ☐ Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ Applicant elects the option to pay the fee set forth in 37 CFR 1.17(p) for submission of an Information Disclosure Statement under § 1.97(c) (\$240.00).
- C. ☐ The Information Disclosure Statement transmitted herewith is being filed **after** a final action under § 1.113, or a notice of allowance under § 1.311, whichever occurs first, but before the payment of the

issue fee. Also enclosed is a copy of the International Search Report which Issued on International Publication No.

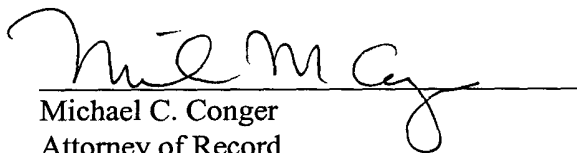
In accordance with the requirements of 37 CFR 1.97(d):

- ☐ Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ Applicant hereby petitions for the consideration of the accompanying Information Disclosure Statement. 37 CFR 1.97(d)(ii).
- ☐ The petition fee set forth in § 1.17(i)(1) (\$130.00) is submitted herewith.

☒ Please charge any required fees to Deposit Account No.07-1392.

☐ A duplicate copy of this paper is attached.

Respectfully Submitted,



Michael C. Conger  
Attorney of Record  
Registration No. 43,562

Date: 9/9/03  
GlaxoSmithKline  
Corporate Intellectual Property  
5 Moore Drive, P.O. Box 13398  
Research Triangle Park, NC 27709-3398  
Telephone: (919) 483-2474  
Facsimile: (919) 483-7988

<b>FORM PTO-1449</b> <b>INFORMATION DISCLOSURE STATEMENT</b>				<b>ATTORNEY DOCKET NO.</b> PU3680US3		<b>SERIAL NO.</b> To be assigned	
				<b>APPLICANT</b> Susan CHUBINSKAYA et al.			
				<b>FILING DATE</b> Concurrently herewith		<b>GROUP</b>	
<b>U.S. PATENT DOCUMENTS</b>							
Examiner Initials		Patent Number	Issue Date	Name	Class	Subclass	Filing Date If Appropriate
	1.	5,004,741	04/02/1991	Evans et al.			
	2.	5,416,066	05/16/1995	Kaneko et al.			
Continue on page _____							
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Publication Date	Country	Class	Subclass	Translation Yes   No
Continue on page _____							
<b>OTHER DOCUMENTS (Including Author, Title, Journal-Date, Page Number, Etc.)</b>							
	3.	Billinghurst et al., "Enhanced cleavage of type II collagen by collagenases in osteoarthritic articular cartilage," <i>J. Clin. Invest.</i> 99:1534-1545 (1997).					
	4.	Bohm et al., "Structural and functional comparison of anchorin CII (cartilage annexin V) and muscle annexin V," <i>Arch Biochem Biophys</i> 314:64-74 (1994).					
	5.	Donnelly et al., "Annexins in the secretory pathway," <i>J. Cell. Molec. Life Sci.</i> 53:533-538 (1997).					
	6.	Fernandez et al., "The structure of anchorin CII, a collagen binding protein isolated from chondrocyte membrane," <i>Biol. Chem.</i> 263:5921-5925 (1988).					
	7.	Hofmann et al., "Interactions of benzodiazepine derivatives with annexins," <i>J. Biol. Chem.</i> 273(5):2885-2894 (1998).					
	8.	Huber et al., "Crystal and molecular structure of human annexin V after refinement," <i>J. Mol. Biol.</i> 223:683-704 (1992).					
	9.	King et al., "Absence of anchorin CII and impaired collagen binding in the swarm rat chondrosarcoma," <i>Orthop. Res. Soc. Trans.</i> 20:387 (1995).					
	10.	King et al., "Absence of cell-surface annexin V is accompanied by defective collagen matrix binding in the swarm rat chondrosarcoma," <i>J. Cell. Biochem.</i> 65:131-144 (1997).					
	11.	Koyano et al., "Collagen and proteoglycan production by bovine fetal and adult chondrocytes under low levels of calcium and zinc ions," <i>Connect Tiss Res</i> 34(3):213-225 (1996).					
	12.	Koyano et al., "Reduced levels of calcium block hypertrophy and degradation of cartilage and stimulate collagen synthesis in chicken tibial explants," <i>Orthop. Res. Soc. Trans.</i> 21:354 (1996).					
	13.	Koyono et al., "Quantitative and qualitative analysis of 3H-proline-labeled protein for the investigation of the collagen metabolism by rapid filtration in multiwell plates," <i>BioTechniques</i> 22:706-716 (1997).					
	14.	Liemann et al., "Three-dimensional structure of annexins," <i>J. Cell. Molec. Life Sci.</i> 53:516-521 (1997).					
	15.	Mallein-Gerin et al., "Proteoglycan core protein and type II collagen gene expressions are not correlated with cell shape changes during low density chondrocyte cultures," <i>Differentiation</i> 43:204-211 (1990).					
Continue on page <u>2</u>							
EXAMINER					DATE CONSIDERED		
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.							

<b>FORM PTO-1449</b> <b>INFORMATION DISCLOSURE STATEMENT</b>				<b>ATTORNEY DOCKET NO.</b> PU3680US3		<b>SERIAL NO.</b> To be assigned	
				<b>APPLICANT</b> Susan CHUBINSKAYA et al.			
				<b>FILING DATE</b> Concurrently herewith		<b>GROUP</b>	
<b>U.S. PATENT DOCUMENTS</b>							
Examiner Initials		Patent Number	Issue Date	Name	Class	Subclass	Filing Date If Appropriate
Continue on page ____							
<b>FOREIGN PATENT DOCUMENTS</b>							
		Document Number	Publication Date	Country	Class	Subclass	Translation Yes   No
Continue on page ____							
<b>OTHER DOCUMENTS (Including Author, Title, Journal-Date, Page Number, Etc.)</b>							
	16.	Mollenhauer et al., "Isolation and Characterization of a Collagen binding Glycoprotein from Chondrocyte Membranes," <i>EMBO J.</i> <b>2(1)</b> :45-50 (1983).					
	17.	Mollenhauer et al., "Role of anchorin CII, a 31,000-mol-wt membrane protein, in the interaction of chondrocytes with type II collagen." <i>J. Cell Biol.</i> <b>98</b> :1572-1578 (1984).					
	18.	Mollenhauer, "Annexins: what are they good for?," <i>J. Cell. Molec. Life Sci.</i> <b>53</b> :546-556 (1997).					
	19.	Mollenhauer et al., "," <i>Orthop. Res. Soc. Trans.</i> <b>23</b> :444 (1998).					
	20.	Mollenhauer et al., "Expression of anchorin CII (cartilage annexin V) in human young, normal adult, and osteoarthritis cartilage," <i>Histochem. Cytochem.</i> <b>47(2)</b> :209-220 (1999).					
	21.	Morgan et al., Annexin gene structures and molecular evolutionary genetics," <i>J. Cell. Molec. Life Sci.</i> <b>53</b> :508-515 (1997).					
	22.	Raynal et al., "Annexins: the problem of assessing the biological role for a gene family of multifunctional calcium-and phospholipid-binding proteins," <i>Biochem. Biophys. Acta</i> <b>1197</b> :63-93 (1994).					
	23.	Reid et al., "Heterogeneity of articular chondrocytes: differential binding of collagen and response to collagen in suspension culture," <i>Orthop. Res. Soc. Trans.</i> <b>21</b> :312 (1996).					
	24.	Reutelingsperger et al., "Annexin V, the regulator of phosphatidylserine-catalyzed inflammation and coagulation during apoptosis," <i>J. Cell. Molec. Life Sci.</i> <b>53</b> :527-532 (1997).					
	25.	Rothhut, "Participation of annexins in protein phosphorylation," <i>J. Cell. Molec. Life Sci.</i> <b>53</b> :522-526 (1997).					
	26.	Torzilli et al., "Effects of misoprostol and prostaglandin E2 on proteoglycan biosynthesis and loss in unloaded and loaded articular cartilage explants," <i>Prostaglandins</i> <b>52</b> :157-173 (1996).					
	27.	von der Mark et al., "Anchorin CII, a type II collagen binding glycoprotein from chondrocyte membranes" <i>Ann. NewYork Acad. Sci.</i> , <b>469</b> :214-223 (1985).					
	28.	Von der Mark et al., "Annexin V interactions with collagen," <i>Cell. Mol. Life Sci.</i> <b>53</b> :539-545 (1997).					
Continue on page ____							
EXAMINER					DATE CONSIDERED		
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.							